

Third West Weekly Report Shepherd, Michael



Joyce Ackerman, 'Craig Barnitz (cbarnitz@utah.gov)' 02/08/2012 03:14 PM

Hide Details

From: "Shepherd, Michael" < Michael. Shepherd @ PacifiCorp.com>

To: Joyce Ackerman/R8/USEPA/US@EPA, "'Craig Barnitz (cbarnitz@utah.gov)'" <cbarnitz@utah.gov>

7 Attachments





Weekly Report 01-30 to 02-04-12.pdf Third West Weekly Log - 2011-05.pdf 228782-1.pdf 228963-1.pdf







229067-1.pdf 229078-1.pdf 229209-1.pdf

Joyce & Craig,

Attached are the reports for the week of January 30, 2012.

We had positive hits of chrysotile on Monday and Saturday last week, and a tremolite hit on Tuesday.

I read your email Joyce, I agree with your comments and we have already taken several measures to increase compliance to the Work Plan. I also have some ideas on the increase in chrysotile hits. I'll respond to your email with more details this week.

Please let me know if you have any questions.

Thanks,

Mike Shepherd

Project Manager Rocky Mountain Power - Major Projects 801.220.4584 Office 801.631.1310 Cell 801.220.2797 Fax michael.shepherd@pacificorp.com





3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

	DAILY CHECKLIST
DATE:	01/30/11
Comonal	
General NA Worl	k area Health and Safety Inspection
NA WOII	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
INA	activities for the day
NA .	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record Form B (where applicable)
NA	Document required Respirator Training completion with Form H
NA	Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA	Confirm return of waste material manifest documents for each load with site manager.
NA Com	plete all CSHASP Forms (for applicable activities planned for that day)
NA	Illness/Injury Report Form A
NA	Site-Specific Training Record Form C
NA	Hot Work Permit Form D
NA	Trench/Evacuation Permit Form E
NA	Combined Space Entry Permit From F
☑	Exclusion zone operations are practiced as instructed.
	☑ Decontamination unit is working properly.
	☑ Workers are using decontamination unit as instructed.
	☑ Workers use personal protective equipment properly.
	Set air samples at cardinal compass points around exclusion zone. Check
	throughout the day to ensure proper operation.
	Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
7	Review sign-in/sign-out log throughout and at the end of the workday. Secure the site at the end of the workday
Samplin	ng · ·
N/A C '1	
NA Soil □	Confirmation sampling for any newly excavated areas Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
NA	Digitally photograph each sample location and at any place field sampling personnel determined necessary





☑	Electronically file photo files into the on-site database
\square	Complete Field Documentation
	Field Sample Data Sheets (FSDS)
	Logbook
	On-site computer database
abla	Label each sample media with a unique number
	Seal sample(s) in zip lock plastic bags
Ø	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
	Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
	Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: <u>01/30/12</u>
Location: 3 rd West, 1 st South, SLC	Job Number:
Survey Conducted By: _Justin Kargis	Title:

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х	,		
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.		,	х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			х	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			х	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.		8-	x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.		-	x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			х	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			х	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			х	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			х	
1926.102 (a) (1)	Eye and face protection shall be provided.	х			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	х			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	×
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			e e
1926.105 (a) ^	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	х			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x	1		
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			A
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			х	
1926.550 (b)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.	2		x	

Exclusion zone active and observed once earthwork began.

19 trucks washed out throughout the day.

Newman continued excavation for transformer pad and set shoring in hole for 46 kV vaults. They lined the walls outside the shoring and capped the ground level with clean fill. Waiting for fence panels to seal this area off for CVE civil crew.

IRH removed 3 of the old transformers from west section of the yard.

CVE line crew mounted another circuit breaker next to existing transformer pad.





3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

	DAILY CHECKLIST
DATE:_	01/31/11
Gen	eral .
	Vork area Health and Safety Inspection
NA	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
	activities for the day
NA	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior
•	to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record Form B (where applicable)
NA	Document required Respirator Training completion with Form H
NA	Record times and numbers of dump trucks and trailers as they leave the site with
	contaminated material.
NA	Confirm return of waste material manifest documents for each load with site manager.
NA (Complete all CSHASP Forms (for applicable activities planned for that day)
	NA Illness/Injury Report Form A
1	NA Site-Specific Training Record Form C
ľ	NA Hot Work Permit Form D
	NA Trench/Evacuation Permit Form E
1	NA Combined Space Entry Permit From F
6	Exclusion zone operations are practiced as instructed.
	☐ Decontamination unit is working properly.
	☑ Workers are using decontamination unit as instructed.
	✓ Workers use personal protective equipment properly.
	Set air samples at cardinal compass points around exclusion zone. Check
	throughout the day to ensure proper operation.
	Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
\square	Review sign-in/sign-out log throughout and at the end of the workday.
Ø	Secure the site at the end of the workday
Ç 0	
Sain	pling
NA S	Soil Confirmation sampling for any newly excavated areas
	Stationary Air Monitoring during contaminated soil removal around the perimeter of the
	exclusion zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
NA	Digitally photograph each sample location and at any place field sampling personnel determined necessary





\square	Electronically file photo files into the on-site database
Ø	Complete Field Documentation
	Field Sample Data Sheets (FSDS)
	Logbook
\square	On-site computer database
\square	Label each sample media with a unique number
\square	Seal sample(s) in zip lock plastic bags
Ø	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
Ø	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
Ø	Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
\square	Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: 01/31/12		
Location:3rd West, 1st South, SLC	Job Number:		
Survey Conducted By: Justin Kargis	Title:		

Standard	Title	☐ In Compliance	Out of Compliance	D N/A	Corrective Action Taken and Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title			<i>□</i> .	Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			х	
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	٠.
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.	*		x	
1926.405 (Ь)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			х	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			-
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			X	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	х			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	×
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	х			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			х	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			х	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Exclusion zone active once earthwork began.

4 trucks washed out before 10 am.

CVE civil crew started work on the floor for the 46kV vaults. Newman has spread clean fill and gravel on the ground and lined the walls of the hole with poly to create a cleaner area for work. However, work activities involve removing some of the plastic so that the workers are in close proximity to exposed native soil.

Newman continued with excavation and compaction for 2nd transformer pad. Several trucks of clean fill off loaded in the EZ.

R&R sampled dust in the battery room of the old control building. 3 samples were taken to the lab for 2 hour turnaround. While sampling, an oil spill was noticed around the structure for the get-away cable in the south west section of the yard.

IRH removed 2 more breakers from the west section of the yard and removed all of their equipment by days end.



NA

determined necessary



3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

	DAIL I CHECKLIST
DATE:_	02/01/11
Gene	ral
	Vork area Health and Safety Inspection
NA	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
	activities for the day
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NA	Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
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IVA	
NA C	manager. omplete all CSHASP Forms (for applicable activities planned for that day)
	A Illness/Injury Report Form A
	A Site-Specific Training Record Form C
	A Hot Work Permit Form D
	Trench/Evacuation Permit Form E
	A Combined Space Entry Permit From F
✓	
•	☐ Decontamination unit is working properly.
	✓ Workers are using decontamination unit as instructed.
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	Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
✓	Review sign-in/sign-out log throughout and at the end of the workday.
☑	Secure the site at the end of the workday
Sam	pling
NA S	oil Confirmation sampling for any newly excavated areas
☑	Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil

Digitally photograph each sample location and at any place field sampling personnel





\square	Electronically file photo files into the on-site database
	Complete Field Documentation
	Field Sample Data Sheets (FSDS)
☑	Logbook
☑	On-site computer database
	Label each sample media whh a unique number
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Ø	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
	Review and disseminate sample results as received from the laboratories to Project
	Manager and other appropriate managers and employees
	Electronically file sample reports into on-site database



Project: 3 rd West Sub Station	Date: 02/01/12
Location: 3rd West, 1st South, SLC	Job Number:
Survey Conducted By: Justin Kargis	Title:

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			X	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	d
1926.100 (a)	Head protection, where there is a possible danger of head injury.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	,
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.		4	x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			х	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	i
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

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Standard	Title				Date
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	*
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			х	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х		9.5	
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	
1926.102 (a) (1)	Eye and face protection shall be provided.	х			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			,
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	

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Standard	Title				Date
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1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x	ii.		
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			х	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	х			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			х	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			÷
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.	1		х	* Y
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	-

Exclusion zone active once earthwork began.

Bi-Weekly meeting covered mostly electrical, construction, and equipment items.

Met with Robert Hamilton from RMP and conducted site tour. Discussed a few areas that need to be covered up and addressed. He sent an email regarding these items to Scott Collard.

Met with Scott Collard and discussed some of the same items.

EZ was modified to allow for work on the 2nd transformer foundation. Newman continued breaking concrete structure/basement where old switchgear was housed.





3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

		DAILY CHECKLIST
DATE	::	02/02/11
0	1	
	<u>neral</u>	Work and Hoolth and Cofety Inquestion
NA NA		Work area Health and Safety Inspection
NA	.	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
B.T.		activities for the day
N.A	1	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
N/	A	Site hazard and safety instruction for all first time employees, contractors or visitors
NA.	4	Complete Employee Meeting Record Form B (where applicable)
NA.	4	Document required Respirator Training completion with Form H
NA		Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA		Confirm return of waste material manifest documents for each load with site manager.
NA	Compl	ete all CSHASP Forms (for applicable activities planned for that day)
	NA	Illness/Injury Report Form A
	NA	Site-Specific Training Record Form C
	NA	Hot Work Permit Form D
	NA	Trench/Evacuation Permit Form E
	NA	Combined Space Entry Permit From F
	$\overline{\mathbf{V}}$	Exclusion zone operations are practiced as instructed.
		☐ Decontamination unit is working properly.
		✓ Workers are using decontamination unit as instructed.
		✓ Workers use personal protective equipment properly.
Ø		Set air samples at cardinal compass points around exclusion zone. Check
ت		throughout the day to ensure proper operation.
		Observe control measures for dust and fugitive materials i.e. watering excavation
		sites and track out prevention.
☑		Review sign-in/sign-out log throughout and at the end of the workday.
Ø	•	Secure the site at the end of the workday
<u>Sa</u>	mpling	
B.T.A		
NA	Soil C	onfirmation sampling for any newly excavated areas
\square		Stationary Air Monitoring during contaminated soil removal around the perimeter of the
1 . 7		exclusion zone
N ₂		Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
N	A	Digitally photograph each sample location and at any place field sampling personnel determined necessary





☑	Electronically file photo files into the on-site database
☑	Complete Field Documentation
abla	Field Sample Data Sheets (FSDS)
abla	Logbook
abla	On-site computer database
	Label each sample media with a unique number
abla	Seal sample(s) in zip lock plastic bags
Ø	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
Ø	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
Ø	Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
\square	Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: 02/02/12
Location: 3rd West, 1st South, SLC	Job Number:
Survey Conducted By: _Justin Kargis	Title:

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			х	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x	a		
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.		6	х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.		S.	х	
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

Standard	Title	☐ In Compliance	Out of Compliance	D N/A	Corrective Action Taken and Date
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.	2		x	Date
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x		×	
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			х	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.	,		x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.	10		x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	
1926.102 (a) (1)	Eye and face protection shall be provided.	x		×	
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			8
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			х	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

Standard	Title	☐ In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Stuntuaru			-		Dute
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	х			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.	-		x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Exclusion zone active once earthwork began.

CVE poured central section of switchgear floor and foundations for 46 kV vaults starting at 10 am. Newman washed out 4 trucks loaded with concrete and native material.

R&R covered exposed cut bank areas with exposed native soil out side the exclusion zone. This was along the west side of the excavation of the 2nd transformer site. A high concentration of vermiculite was observed at the south end of this bank.

CVE personnel entered EZ around 2:30 without suiting up. They were in the west section of the yard that was previously considered part of the clean zone. This may require some clarification on new EZ boundaries.



NA

determined necessary



3RD WEST SUBSTATION REMEDIATION PROJECT HEALTH SAFETY MANAGER (HSM)

DAII V CHECKI IST

		DAILY CHECKLIST
DATE		02/03/11
Con	1	
	<u>neral</u>	Work and Hoolth and Cofety Inquestion
NA		Work area Health and Safety Inspection
NA		Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day
. NA		Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA		Site hazard and safety instruction for all first time employees, contractors or visitors
NA		Complete Employee Meeting Record Form B (where applicable)
NA		Document required Respirator Training completion with Form H
NA		Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA		Confirm return of waste material manifest documents for each load with site
NA		manager. ete all CSHASP Forms (for applicable activities planned for that day)
	NA	Illness/Injury Report Form A
		Site-Specific Training Record Form C
	NA NA	Hot Work Permit Form D
	NA NA	Trench/Evacuation Permit Form E
	NA	
	NA	Combined Space Entry Permit From F
	☑	Exclusion zone operations are practiced as instructed.
		Decontamination unit is working properly.
,		Workers are using decontamination unit as instructed.
		✓ Workers use personal protective equipment properly.
		Set air samples at cardinal compass points around exclusion zone. Check
		throughout the day to ensure proper operation.
•		Observe control measures for dust and fugitive materials i.e. watering excavation
		sites and track out prevention.
		Review sign-in/sign-out log throughout and at the end of the workday.
☑		Secure the site at the end of the workday
San	mpling	
NA	Soil Co	onfirmation sampling for any newly excavated areas
\square	Jon Co	Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
NA	\	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil

Digitally photograph each sample location and at any place field sampling personnel





Electronically file photo files into the on-site database
Complete Field Documentation
Field Sample Data Sheets (FSDS)
Logbook
On-site computer database
Label each sample media with a unique number
Seal sample(s) in zip lock plastic bags
Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: 02/03/12
Location: 3rd West, 1st South, SLC	Job Number:
Survey Conducted By: <u>Justin Kargis</u>	Title:

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			X	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			¥ ¥
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			х	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			х	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			х	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.		1	x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			х	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			,
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			х	
1926.102 (a) (1)	Eye and face protection shall be provided.	х			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	х		×	
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x	.00		
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.		×	x	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			х	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			X	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and		
Standard	Title				Date		
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x					
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	х					
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			х			
1926.550 (b)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х			

Comments:

Exclusion zone active once earthwork began.

Newman had to raise the level of dirt for the 2nd switchgear. EZ had to be temporarily modified to accommodate for bringing in the roller and fill material. This involved Newman workers moving in and out of the active EZ through the fences while suited up between 8:30-12:30. Scott Collard from CVE was on site and observed this activity around 9:00-9:30.

Newman washed out one of the excavators but some native soil was still present in the tracks and wheels when it was loaded. R&R discussed this and encouraged Newman to more thoroughly wash equipment as it leaves the EZ.

CVE civil crew set forms and rebar for 2nd transformer pad.

CVE electricians worked on panels in the new control building.



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station	Date: 02/04/12	_
Location: 3rd West, 1st South, SLC	Job Number:	_
Survey Conducted By: _Justin Kargis	Title:	_

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.	ı		х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х		al.	
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.	U U		х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	Ξ	B	х	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.	=		x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			х	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			х	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х		×	
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			,
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			х	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	х			
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			x	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.	×		Х	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.	÷		x	\h.
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			4
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	х			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	

Standard	Title	In Compliance	Out of Compliance	D N/A	Corrective Action Taken and Date
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	х			
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x ,	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.	4		х	

Comments:

Exclusion zone active once earthwork began.

CVE civil crew poured foundation for 2nd transformer. Finished work around 15:00.

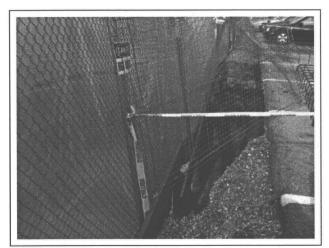
No exclusion zone work done.



РНОТО 1



РНОТО 2



РНОТО 3



РНОТО 4

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070 (801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

DRAWN BY:
DATE
JMK

01/30/12

FILE:

SITE PHOTOGRAPHS





РНОТО 1



РНОТО 2



РНОТО 3



РНОТО 4

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070 (801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

DRAWN BY:

DATE

JMK

SCALE:

REVIEWED BY:

DCR

FILE:

SITE PHOTOGRAPHS





РНОТО 1



РНОТО 2



РНОТО 3

R & REnvironmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE 02/01/12	FILE:	

SITE PHOTOGRAPHS

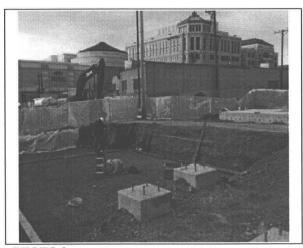




РНОТО 1



PHOTO 2



РНОТО 3

PHOTO 4

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070 (801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

DRAWN BY:

DATE

JMK

02/02/12

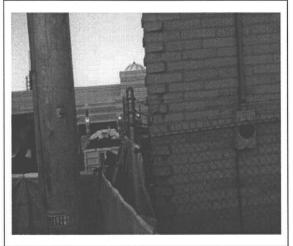
FILE:

SITE PHOTOGRAPHS





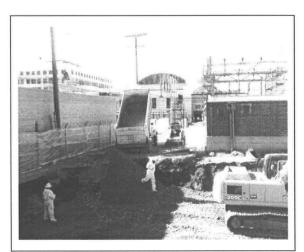
РНОТО 1



РНОТО 2



РНОТО 3



РНОТО 4

R & REnvironmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE 02/03/12	FILE:	

SITE PHOTOGRAPHS



PROJECT NAME:	Third Wes	t Sub - Rebuild	DATE :	0, 2012	
PO & Work Order NO. :	30000780	50 / 10035803	MAIN CONTRAC	TOR : Cache Vall	ey Electric
Crew Start Time:	7:00	Crew Stop Time:	16:15	Tot Hrs mns:	9:15
FCR Start Time:	6:50	FCR Stop Time:	17:13	Tot Hrs mns:	10:23
Use mi/itary time format 00:00					
WEATHER CONDITIONS:		Overcast - 30 de	g r ees in AM, 40 degr	ees in PM	-
DESCRIPTION: (work performance)	rmed, general co	omments, Instructions to	contractor, # of cre	w members onsite	e.)
R&R set up four monitors. CVE li	ne crew completed	disconnecting all of the equip	oment in the old 46 kV	ard and IRH removed	the 46 kV
breakers. They drilled and set th line (S/N 711335504, SAP # 3880 excavation ready for setting forms bottom of the 46 kV vault excavat zone. Delivered packing slips and 8, Miller = 5, Geary = 4, R&R = 1	099). CVE fab crew s and rebar. Newm ion and positioned d freight bills for HV	v is working on anchor bolts a lan loaded out 19 trucks, for a the trench box and relocated	nd embeds, filling in tim total of 163. N ewman fence panels to place t	ne until N ewman has t placed gravel to grad	he 46 kV vau e in the the clean
IF WORKING IN ENERGIZED	SUBSTATION:				
Dispatcher login, name and time:	Ken Barto 06	50			
Dispatcher logout, name and time	Barry Nielson	1713			
DISCREPANCIES:			IMMEDIATE CORR	ECTIVE ACTION T	AKEN:
·					
11/30 - Identified an additional retaining Demo Plan.	ng wall that is below g	grade and does not show on the	Will excavate to determin	e dimensions.	
12/14 - Communications battery rack			Sent email and pictures to	•	
indicates that they were told to orocee 12/15 - Excavated to locate the 46 kV	cables exiting the we	est side of the yard. Dug 8' and	acceptable to RtMP. Und Sent e-mail to Roger F.	er evaluation by Comm (<u>Jrouo</u>
didn't find them. Will try again. Actua	COUNTERED:	deeder than design of new bank			
EQUIPMENT (working, deliv	ered, idle):				
CVE fab crew: Portable toilet (2), fortwash-down structure, trachoe, bobca	klift, 1 dumpster, office			truck, boom truck. New	man: portable
OSHA Recordable Safety In	cidents:		Rep	orted by:	Time:
			T T		
			•		



PROJECT NAME: _		Third Wes	st Sub - Rebuild	DATE: Tuesday, January 31, 2012						
PO & Work Order NO. :_	_	30000780	050 / 10035803	MAIN CONT	RACTOR	:_Cache Valle	y Electric			
Crew Start Time:	7:	:00	Crew Stop Time	: 16:59	5 .	Tot Hrs mns:	9:55			
FCR Start Time:	6	:35	FCR Stop Time		5	Tot Hrs mns:	10:40			
Use military time format 00			1 G. Gtop Time				10.40			
ose minuty amo roundt so										
WEATHER CONDITIONS	S: .		Sunny - 27 de	grees in AM, 50	degrees in	PM				
DESCRIPTION: (work po										
vault, and continued excavati overexcavation. They also re trench box was placed at gra delivered ABC material from forms for the vault floors and	ion for the e-aligned to de and the the spoils worked o	transformer the fence aro e exclusion z stockpile for n forms and r	area. They started backfillin und the east side of the 46 k one fence was relocated to a backfilling of the transformer	g and have installe V vault area to kee Illow CVE fab crew and "E" foundation H completed remov	d approxima p people fror access to the area. CVE	tely 1' of the 2' m parking in that he vault area. N o fab crew starte	t area. The ewman d placing			
	•	•	+							
•							.			
IF WORKING IN ENERGI	ZED SU	BSTATION:								
Dispatcher login, name and t	ime:	Ken Barto 06	354							
Dispatcher logout, name and	time:	Bany Nielso	n 1715							
DISCREPANCIES:				IMMEDIATE C	ORRECTIV	E ACTION TA	AKEN:			
						-				
										
11/30 - Identified an additional re	etaining wa	II that is below	grade and does not show on the	Will excavate to de	termine dime	nsions.				
Demo Plan	rock outon	de into the north	thoset doorway Canital Floatria	Sent email and pic	turas ta Bana	- C to confirm that	thic as edict is			
indicates that they were told to o				acceptable to RMF		•				
12/15 - Excavated to locate the						dation by Commit C	лоар			
didn't find them. Will try again.			deeper than design of new bank							
DELAYS OR LOST TIME	ENCOU	NTERED:		<u> </u>						
EQUIPMENT (working, o	delivered	l, idle):			•					
CVE fab crew: Portable toilet (2 wash-down structure, trachoe, t), forklift, 1	dumpster, offic			, crew truck, b	ooom truck. Newn	nan: portable			
OCHA Pagardahia Cafat	n lacide	nto			Donorto	hie	Timer			
OSHA Recordable Safet	y inclue	nts.			Reported	by:	Time:			
			····		 		 			
			·		1		<u></u>			



PROJECT NAME:		Third West	Sub - Rebuild	DATE: Wednesday, February 1, 201					
PO & Work Order NO. :	·	300007805	0 / 10035803	MAIN CONT	RACTOR :	Cache Valle	y Electric		
Crew Start Time:	7	:00	Crew Stop Time:	16:40		Tot Hrs mns:	9:40		
FCR Start Time:	6	:45	FCR Stop Time:	17:15	 .	Tot Hrs mns:	10:30		
Use military time format 0						_			
•									
WEATHER CONDITION	IS:		Partly Cloudy - 28 degre	es in AM, Cloud	y and 38 de	grees in PM			
DESCRIPTION: (work p									
R&R set up four monitors. I truck traffic to move through transformer pad. Newman on the 4 kV switchgear vaul area is in a clean zone. CV section to be poured on Thu Shepherd. CVE Fa	the EZ. T placed bac t and comp E fab crew ursday, 2/2	he temporary to the temporary to the temporary the tempora	packfill and fence relocation vation for the west half of th fill of the transformer pad are the floors for the 46 kV vault	is necessary beca e new 138 kV yard ea. They relocated s and prepping the	use of the execution of the EZ fence embeds for the EZ	cavation for the ontinued doing e so that the tra	2nd demo work insformer chgear floor		
		•							
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IF WORKING IN ENERG	IZED SU	BSTATION:							
Dispatcher login, name and	time:	Ken Barto 064	5				`		
Dispatcher logout, name an	d time:	Jim Bowman 1	1655						
DISCREPANCIES:		·		IMMEDIATE C	ORRECTIVI	E ACTION TA	KEN:		
				,			ŀ		
							٠,.		
14100 14 (15 4 - 141)				1450 -		. — — — —			
11/30 - Identified an additional Demo Plan.	retaining wa	ii that is below gr	ade and does not snow on the	Will excavate to de	termine aimens	sions.			
12/14 - Communications batter	y rack exten	ds into the north	east doorway. Capital Electric	Sent email and pict	tures to Roger	F to confirm that	this conflict is		
indicates that they were told to 12/15 - Excavated to locate the				acceotable to RMP Sent e-mail to Rog		ation by Comm G	roup		
didn't find them. Will try again.				Sent e-mail to Rog	с ן г.				
DELAYS OR LOST TIM							•		
			•				·		
EQUIPMENT (working,	delivered	l, idle):							
CVE fab crew: Portable toilet (2), forklift, 1	dumpster, office	trailer, conex , exclusion zone ner, water truck, compactor (2),		, crew truck, bo	oom truck. Newm	an: portable		
OSHA Recordable Safe	tv Incide	nts:			Reported t	ov:	Time:		
Oale	,		·			,			
									
			<u> </u>						



PROJECT NAME:	Third West S	Sub - Rebuild	DATE: Thursday, February 2, 2011				
PO & Work Order NO. :	3000078050	0 / 10035803	MAIN CONTRACTOR	:_Cache Valle	y Electric		
Crew Start Time:	7:00	Crew Stop Time:	17:30	Tot Hrs mns:	10:30		
FCR Start Time:	6:54	FCR Stop Time:	17:35	Tot Hrs mns:	10:41		
Use military time format 00:00		•					
,							
WEATHER CONDITIONS:	Sno	ow and Rain - 33 degrees	s in AM, Partly Cloudy - 3	8 degrees In Pl	M		
DESCRIPTION: (work perform							
R&R set up four monitors. Newman							
and we are calling the entire west si comes in to remove the batteries. O 30 cyds. Started forming up the trai the morning. CVE Fab Cre	CVE fab crew poure nsformer floor but s	ed the 46 kV vault floors and	the middle floor section of the too low, so Newman will ne	ne switc hgear, ap	proximately		
		•					
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IF WORKING IN ENERGIZED S	SUBSTATION:		<u> </u>				
Dispatcher login, name and time:	Ken Barto 0654			•			
Dispatcher logout, name and time:	Jim Bowman 17	735					
DISCREPANCIES:	· · · · · · · · · · · · · · · · · · ·		IMMEDIATE CORRECTI	VE ACTION TA	KEN:		
· · · · · ·			· · · · · · · · · · · · · · · · · · ·				
							
11/30 - Identified an additional retaining Demo Plan	wall that is below gra	de and does not show on the	Will excavate to determine dime	nsions.			
12/14 - Communications battery rack ex	tends into the norther	ast doorway. Capital Electric	Determined by RMP that a differ	rent style of battery	rack will be		
indicates that they were told to oroceed			purchased to allow clearance in	the doonway			
12/15 - Excavated to locate the 46 kV ca			Sent e-mail to Roger F.				
DELAYS OR LOST TIME ENC		oper man georgine men equin 1					
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			•				
					1		
	·			<u> </u>			
EQUIPMENT (working, deliver			·				
CVE fab crew: Portable toilet (2), forklift wash-down structure, trachoe, bobcat,				boom truck. Newn	nan: portable		
1							
OSHA Recordable Safety Incid	dents:		Reported	bv:	 Time:		
The state of the s							
							
		·					



PROJECT NAME:		Third West Sub - Rebuild			DATE: Friday, February 3, 2011		
PO & Work Order NO. :		300007805	0 / 10035803	MAIN CONT	RACTOR :	Cache Valle	y Electric
Crew Start Time:	7	:00	Crew Stop Tim	e: 16:4	5	Tot Hrs mns:	9:45
FCR Start Time:	- 6	:45	FCR Stop Tim	e: 16:4	5	Tot Hrs mns:	10:00
Use military time format (
Oscillatory billoroniae	30.00						
WEATHER CONDITION	NS:		Sunny - 27 d	egrees in AM, 45	degrees In I	PM .	
DESCRIPTION: (work							
R&R set up four monitors. placed backfill in the south completed the rebar placen tests on the south EZ area area on Monday. CVE elec Newman = 6, R&R = 1, W	EZ area. Conent for the and identifications of the conent and identifications.	VE fab crew str transformer floo ed an area in th	ripped the 46 kV vault floor or in preparation for a 10: e center that is pumping i	ors and covered theo OO AM pour on Satu noisture a bit. New	n with insula Irday. W ildin man quit vibr	ted blankets. The performed con	ney npaction aluate the
			•	•			
			•				
·							
						•	
IF WORKING IN ENERG	GIZED SU	BSTATION:					
Dispatcher login, name and	time:	Al Swinski 064	5				
Dispatcher logout, name ar	nd time:	Jim Bowman 1	645				
DISCREPANCIES:			·	IMMEDIATE C	ORRECTIV	/E ACTION TA	KEN:
<u> </u>							
				` .			
11/30 - Identified an additional Demo Plan.	_	_					-
12/14 - Communications batte indicates that they were told to				c Determined by RM purchased to allow			rack will be
12/15 - Excavated to locate the						tie doorway	
didn't find them. Will try again	. Actual dept	th will be much de					
DELAYS OR LOST TIM	IE ENCOU	NTERED:	·				
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· ·							
				•			
FOUIDMENT (working)	م مسمد داند	l idlalı	- · · ·	· •			
CVE fab crew: Portable toilet	(2), forklift, 1	dumpster, office			r, Crew truck, b	oom truck. Newm	nan: portable
wash-down structure, trachoe	e, popcat, mir	ıı-ex, power wasn	er, water truck, compactor (a	.), Dackilde.			
00114 P	41				D 4 - 1		
OSHA Recordable Safe	ety incide	nts:			Reported	oy:	Time:
· · - · ·	•				1		
L				 	<u>i </u>		



PROJECT NAME:	Third West Su	DATE: Saturday, February 4, 2012					
PO & Work Order NO. :	3000078050 /	10035803	MAIN CONTRACTOR : Cache Valley Electric				
Crew Start Time:	7:00	Crew Stop Time:	15:40		Tot Hrs mns:	8:40	
FCR Start Time:	7:00	FCR Stop Time:	15:40		Tot Hrs mns:	8:40	
Use military time format 00:00				-	_		
	•						
WEATHER CONDITIONS:		Sunny - 24 degr	ees in AM, 45 d	egrees in F	M		
DESCRIPTION: (work perfor							
R&R set up four monitors and left placed waterstop and built the fran 1:00, 48 cyds. Both air and slump new concrete work concluded at 3	mework for the oil contact tests were passing. C	ainment sump. Concrete particular completed finishing of the completed finishing of the completed finishing of the complete completed finishing of the complete compl	pour for the floor s of concrete at 3:00	started at 11	:00 and was cor	nplete by	
		-			•		
	,	•					
						l	
·							
IF WORKING IN ENERGIZED			·			:	
Dispatcher login, name and time:	Eari McGlore 070						
Dispatcher logout, name and time	Eari McGlore 154	0			- 4071011 74	1/21	
DISCREPANCIES:	·	<u> </u>	IMMEDIATE CO	DRRECTIV	E ACTION TA	KEN:	
11/30 - Identified an additional retainir	no wall that is below grade	and does not show on the	Will excavate to det	ermine dimen	eione		
Demo Plan.	ig wan that is below glade	and does not show on the	THIII CACCUTATE TO GET	ciffine differ			
		·					
12/15 - Excavated to locate the 46 kV	cables exiting the west si	de of the Vard Dug 8' and	Sent e-mail to Roge	ar F			
didn't find them. Will try again. Actua				4			
DELAYS OR LOST TIME EN	COUNTERED:						
						į	
					•		
EQUIPMENT (working, deliver							
CVE fab crew: Portable toilet (2), fork wash-down structure, trachoe (3), loa				crew truck, be	oom truck. Newm	an: portable	
OSHA Recordable Safety Inc	cidents:			Reported	by:	Time:	
					. 		





February 1, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 228782-1

Project Description:

None Given 3rd West Sub - RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 228782-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 228782-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

3rd West Sub - RMP

Client Project Description: Date Samples Received:

January 31, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

February 1, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter
ID Number	ID N	umber	Analyzed	Volume Sampled	Asbestos Structures Detected	Sensitivity	Concentration	Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-013012 SW	EM	857996	0.0900	87 3	ND	0.0049	BAS	BAS
3W-013012 NW	EM	857997	0.0900	865	ND	0.0049	BAS	BAS
3W-013012 NE	EM	857998	0.0900	871	ND	0.0049	BAS	BAS
3W-013012 SE	EM	857999	0.0900	869	1	0.0049	0.0049	11.1

NA = Not Analyzed

ND = None Detected BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number:

RES 228782-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description: 3rd West Sub - RMP Date Samples Received:

January 31, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

February 1, 2012

Client	Lab		Asbestos					Structures	**Excluded	Asbestos
ID Number	D Number		Mineral			>5 Microns in Length	Structures	Structures for		
	•		•	Fibers	Bundles	Clusters	Matrices	-		Concentration
3W-013012 SW	EM	857996	ND	0	0	0	0	0	0	0
3W-013012 NW	EM	857997	ND	0	0	0	0	0	0	0
3W-013012 NE	EM	857998	ND	0	0	0	0	0	. 0	0
3W-013012 SE	FM	857999	Chrysotile	1	0	0	0	0	0	1

^{*}See Analytical Procedure for definitions

^{**}C = Excluded from total due to lack of confinnation

^{**}L = Excluded from total for length less than 0.5 micron (AHERA only)

^{**}A = Excluded from total due to i ncorrect aspect ratio

ND = None Detected

Due Date:_	3/1/5
Due Time:	545~

Phone Email Fax

Date

6801 Logan St. Oanvw, CO 80216 • Ph: 303 984-i 985 • Fax 303-477-4278 • Toli Free :886 RESI-ENV

Page ___i __Ot___

INVOICE TO: (IF DIFFERENT) Company: LFR Funingmenta Company: Contact Dave Roskelley Contact Address: 47 W 9005 Address: Phone:	
Address: 47 W 9005 Phone: Phone:	
Seuds 1t. 84070 Fac	
Collipager: \$01 541-1035 Collipager	
Project Number analyce P.O. tt. Fingt Data Deliverable Email Address:	
Project Description/Coation: 300 West Sub-RMP dave Menuino.com	
ASBESTOS LABORATORY HOORS: Weekdays: 7am - 7pm REQUESTED ANALYSIS VALID MATRIX CODES	LAB NOTES:
PLM / PCM (FÈM) RUSH (Same Day) PRIORITY (Next Day) STANDARD Air = A Bulk = B	
(Rush PCM = 2hr, TEM = 8hr.) Dust = D Paint = P	
CHEMISTRY LABORATORY HOURS: Weekdays: Bam - Spm Soil = S Wipe = W	
**Prior notification is	
RCRA 8 / Metals & Weiding Fume Scan / TCLP Organics 24 hr 3 day 5 Day MICROPIOL CRY LAROPATORY HOURS: Workdows: Same firm	
Fume Scan / TCLP Organics 24 hr. 3 day 5 Day Og	
IMICROBIOLOGY LABORATORY HOURS: Weekdays: Sam・6Dm: 「「世界」」「世界」」「「世界」」「「中界」「「中の一方」」「「中の一方」「「中の一方」「「中の一方」「「中の一方」「「中の一方」「「中の一方」「「中の一方」「「中の一方」」「「中の一方」「「中の一方」「「中の一方」「「中の一方」「「中の一方」「「中の一方」「「中の一方」」」「「中の一方」」」「「中の一方」」「「中の一方」」」「「中の一」」「「中の一」」「「中の一方」」」「「中の一方」」」「「中の一」」」「「中の一」」「「中の一」」「「中の一」」」」「「中の一」」」「「中の一」」「「中の一」」」」「「中の一」」」「「中の一」」」」	
MICROBIOLOGY LABORATORY HOURS: Weekdays: Sam • 6pm E.coil O157:H7, Coliforms, S.aureus 24 hr2 Day3-6 Day Salmonella, Listeria, E.coli, APC, Y & M48 Hr3 Day5 Day "Turneround thros ettablish a laboratory priority, ausbiect te laboratory woltune also are not guarantaad. Additional fease apply for aftertioura, weekanda and holidays." MICROBIOLOGY LABORATORY HOURS: Weekdays: Sam • 6pm 24 hr2 Day3-6 Day 4 HB Hr3 Day _5 Day "Turneround thros ettablish a laboratory priority, ausbiect te laboratory woltune also are not guarantaad. Additional fease apply for aftertioura, weekanda and holidays."	
E.coll O157:H7, Coliforms, S.aureus	
1 ¹¹¹¹¹	
"Turnaround thros ettablish a laboratory priority, aubject te laboratory volume and are not guarantaad. Additional feas apply for aftertrours, weakanda and holidays." Special Instructions: Special Instruc	
Special Instructions: Special Instructions: AAHERA AHERA Short repair AAHERA AHERA	
Special instructions:	EM Number (Laboratory
Special instructions: 1	Use Only)
1 3W-013012 SW 873 A 1/20/12	854336
2 3W 013012 NW 865	57
3 3W-013012 ME 871	98
4BW 013012 SF 869 V	Ge &
5	
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7 8	
7	
7 8 9 10 Number of samples received: (Additional samples shall be listed on attached long form.)	
7 8 9 9 10	nples for requested
7 8 9 10 Number of samples received: (Additional samples shall be listed on attached long form.) NOTE: REI will analyza incoming samplas based upon-information received and with not be responsible for errors or omissions in calculations resulting front the inaccuracy of odginal data. By signing dient/company representative agrees that submission of the following samplas as indicated on this Chaig of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.	
Relinquished By: (Additional samples shall be listed on attached long form.) (Additional samples shall be listed on attached long form.) NOTE: REI will analyza incoming samplas based upon-information received and will not be responsible for errors or omissions in calculational resulting front the inaccuracy of odginal data. By signing dient/company representative agrees that submission of the following samplays as indicated on this Chaig of Custody shall constitute an gnalytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge. Relinquished By: Date/Time: 01/30/12 Sample Condition: On ice	mples for requested Sealed Intact es / No Yes No

Time Initials Contact Phone Email Fax

Viscolary 4: 7989 2358 5971

7-2011_version 1

Date

Time

Initlals

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

			_	
Α	=	Amosite	$\mathbf{F} =$	Fiber
An	=	Anthophyllite	$\mathbf{B} =$	Bundle
C	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
Т	=	Tremolite		

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

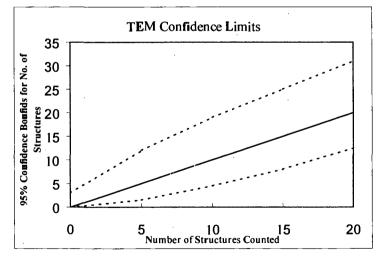
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory nama:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	2010x 10KX
Grid opening area (mm2)	0.01
Scale: 1L=	0.28 um
Scale: 1D =	0.056 ium
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Typo_	

Client:	RYK
Sample Type (A=Air, D=Dust):	A
Air yolume (L) or dust area (cm2)	873
Date received by lab	1/31/12
Lab Job Number:	27.8742
Lab Sample Number:	8579910
	1,4

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primary fillar used	
Total Rasuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

	·
Analyzed by	JB.
Anatysis date	2/1/12
Method (D=Direct, l=Indirect, IA=Indirect ashed)	D
Counting rules (ISO, AHERA, ASTM)	. AH
Grid storage location	. Month Analyzed
Scope Alignment	Date Analyzed

1	Grld	Grid Opening	Structure	No. of St	ructures	Dimer	nsions	Identification	Mineral Class				1 = y	es, blank	= no
			Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Stretch/Comments	Sketch	Photo	EDS
	A	K4-4	ND					 							
	·	114-4	ND			P	sA	8D	Lein for	F	S	La de hus	· .		
	,	614-1	ND.			2	σB	70	he when	-	5	Lo debuis			
	·	F4-4	ND			1.7				=4				·	I
		E4-4.	M						AB.	Z/i/	12		_		
. [B	K4-6	ŃΩ						//:	1. /					
		H4-6	MD.						/						
		64-6	8												•
		F4-10	MD												
							15.55								

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-		•
Manager Mandage		
Reservoirs Environ	ment	ai. inc.
TEM Asbestos Struc		•
I EM ASDESTOS STRUC	:ture	Count

Laboratory name:	REI .
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	2010t 1010X
Grid opening area (mm2)	0.01
Scale: 1L=	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client:	RAR
Samole Tyoe (A=Air, D=Dust);	Α
Air volume (L) or dust area (cm2)	865
Date received by lab	1/31/12
Lab Job Number:	27.8742
Lab Sample Number	857997

• • • • • • • • • • • • • • • • • • • •	•	ps C		
Fraction of primary filter used	•		•	
Total Resuspernion Volume (ml)	•			
Volume Applied to secondary filter		1		•

Analyzed by	JB.
Analysis date	2/1/12
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	B
Counting rules (ISO, AHERA, ASTM)	- AH
Grid storage location	. Month Analyzed
Scope Alignment	Date Analyzed

7			.					·	<u> </u>			· ·	, .		
	irid	Grid Opening	Structure	No. of St	ructures	Dime	nsions	identification	Mineral Class				1 = y	es, blank	= no
Ŀ	714	One opening	Туре	Primary	Total	Length	Width	· · · · ·	Amphibole	. c	NAM	Sketch/Comments	Sketch.	Photo	EDS
		633	ND							•					
		K33	W)			2	, A.	H3.	v. 80 hoint	rut	5	-10% dol	n5		
	•	H3-3	M						· sk	, P					
Ŀ		63-3	M						////	2	/1/12		,		
		F3-3.	MD		•					· ./	/				
1	2	F2-6	NO				· .		/ :						<u> </u>
		EZ-6	MD.												
		(2-6	NO.							• :					
		33-1	MO				;								
[·.							1.						·		٠.

Reservoirs Environmental, inc. TEM Asbestos Structore Count

Laboratory name:	REI
instrument .	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	2010x 1010X
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.055 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	:

Client :	RAR
Sample Type (A=Air, D=Dust):	. A:
Air yolume (L) or dust area (cm2)	871
Data received by lab	1/31/12
Lab Job Number:	27.8742
Lab Sample Number:	857198
	t _.

F-Factor Calculation (Indirect P	rep	s Only):	
Fraction of primary filter used			
Total Resuspension Volume (ml)	7		
Volume Applied to secondary filter (ml)			
. [4.17]			

Analyzed by	JB.
Analysis date	2/1/12
Method (D=Direct, l=Indirect, iA=Indirect, ashed)	10
Counting miles (ISO, AHERA, ASTM)	- AH
Grid storage location	Month Anatyzed
Scope Alignment	Date Analyzed

	Grid	Grid Opening	Structure	No. of St	ructures	Dimer	nsions	identification	Mineral Class	lass			1 = y	= no	
.			Туре	Primary	Total	Length	Width		Amohibole	· C	NAM	Sketch/Comments	Sketch	Photo	EDS
	A	14-1	ND												•
		K4-1	MD.				کر در	46	of nhu	7	5	10hodel	215		
. ";		H4-1	WD			Pur	7	70	% inhart		5-1	o % debus			
• :		G4-1	WD			, ,			6	ļ.			•		
	:	F4-1.	ND					15	2/1/12				• •		
JUST 1	CB	63-1	ND		•			/7.	//:	٠,					
41		F3-1	MD					/							
•		E3-1	NO												
	,	67-4	MD				•								
													•		

Page	1.	of	

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	2010x 1010x
Grid opening area (mm2)	0.01
Scale: 1L=	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	

·:
9.
142
19

Analyzed by	· JB
Anatysis date	2/1/12
Method (D=Direct, I=Indirect, (A=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	. AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Pre	eps	Only):	
Fraction of polymary filter used].		•
Total Resuspension Volume (ml)	Γ	,,	
Volume Applied to secondary filter	T		

Grid	Grid Opening	Structure	No. of St	ructures	Dime	nsions	Identification	Mineral Class	· ·			1 = y	es, blank	= no ·
	·	Туре	Primary	Total	Length	Width		Amohibole	С	· NAM	Sketch/Comments	Sketch	Photo	EDS
A	14-4	ND												
	K4-4	ND.			. (A 8	Ope in fin	7	-5	10 La de la			
	H4-4	NO		· . ·.	,	D'as	3 6	6 hichus	,	5-	10 % debre			
	H3-1	ND			<u> </u>									
	63-1:	M		•						· ·				
B	F2-4	F		1	3	1	CD.		1		1			
	C2-4	MD.						do.				<u> </u>	·	
	C4-4	NO						21B2	1/12			. , .		
	134-4.	M						// /:						

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (run}^2)} \times \frac{1t}{1000cc}$

Filter loading, $s/mm^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed } (mm^2)}$

GO = TEM grid opening



February 3, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 228963-1 None Given

Project Description:

3rd West Sub - RIMP

Eldon Romney R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. Is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 228963-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0016

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 228963-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description:

3rd West Sub - RMP

Date Samples Received:

February 2, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

February 3, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter
ID Nuibber	ID N	umber	Analyzed	Volume Sampled	Asbestos Structures Detected	Sensitivity	Concentration	Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-020112 SW	ЕМ	859226	0.0800	966	ND	0.0050	BAS	BAS
3W-020112 NW	EM	859 22 7	0.0800	965	ND	0.0050	BAS	BAS
3W-020112 NE	EM	859 22 8	0.0800	965	ND	0.0050	BAS	BAS
3W-020112 SE	EM	859229	0.0800	966	ND	0.0050	BAS	BAS

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

DATA QA

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number:

RES 228 963-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given Client Project Description: 3rd West Sul

3rd West Sub - RMP

Date Samples Received:

February 2, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

February 3, 2012

Client ID Number	Lab ID N	um ber	Asbestos Mineral					Structures >5 Microns	**Excluded Structures	Asbestos Structures
				Ast	estos Str	ucture Typ	es*	in Length		for
			•	Fibers	Bundles	Clusters	Matrices	•		Concentration
3W-020112 SW	EM	859226	ND	0	0	0	0	0	0	
3W-020112 NW	EM	859227	ND	0	0	0	0	0	0	0
3W-020112 NE	EM	859228	ND	0	0	0	0	0	0	0
3W-020112 SE	EM	859229	ND	0	0	0	0	. 0	0	0

^{*}See Analytical Procedure for definitions

^{**}C = Excluded from total due to lack of confirmation

^{**}L = Excluded from total for length less than 0.5 micron (AHERA only)

^{**}A = Excluded from total due to i ncorrect aspect ratio

ND = None Detected

Due	Date:_	23.15
Due	Time:	850-

REILAE RESERVOITS ENVIRONMENTEN. INC. 8501 Logen St. Oanver, CO 80216 • Ph: 303 984-1988 • Fax 303-477-4276 • Toti Free :866 RESI-ENV

Page __1__ of _ l__

	Pagar : 303-609 INVOICE TO: (IF			NT)									c	ONTA	LCT	INF	:ORM	MATI	ON.				_
Company: R&R Eudmontwental	Company:	Dit				Cont	ect:	Day	0	erel		10.		OICIA	-		Contac		J. (1.				
Address: 47 W 9000 S #2	Address:					Phor		الميدا	, ,	401	40	404					Phona:						
Sandy U. 84070						Fax											Fax:						
20000 04-000 20						Cel/	pager:	20	10	211-	-10	72					CAlVpo	gor.					
Project Number and/or P.O. #:	l									Emed /					_				_				
Project Description/Location: 3 08 West Sub - RMIP						1.	day	vė (Q (re	Wir	დ.(2000										
ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm			11:1		R	EQUE	STE	D A	ΝA	LYSI	s	: :	1 17 1		V	ALI	D M	ATRI	x co	DES	L/	B NOTE	S:
PLM / PCM (TEN) RUSH (Same Day) K. PRIORITY (Noxt Day)STANDARD	1					1				1			<u> </u>	Al	r = /	١		Bu	ılk = 8	L		
(Rush PCM = 2hr, TEM = 6hr.)		1 [1 1	ĺ	ΙÍ	- [ſ							Du	st =	<u>D</u>	4	Pa	int = P	L		
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm				1 1	- [Ţ	11						So	II = 3	S		W	pe = W			
Metal(s) / Dust RUSH 24 hr 3-5 Day		1	£	1 1	- 1	1 1		1	11	_	Н		1	<u> </u>	Swa	b = :	SW	\perp	F=	= Food			
RCRA 8 / Metals & Welding RUSH 6 day10 day	**Prior nettrication is required for RUSH	Ę	Quant,		- 1	£	1	1	11	횙	11	11	8	Drint	kina (Nate	r = 0	w w	aste V	Vater = WW	1		
Fume Scan / TCLP — Noon — 10 day	himarounda.**	8	+ A			ြမ္မ	- 1	Ţ	H	割			휥뙪					= Oth					
Organics 24 hr 3 day5 Day		Point Count	0 7	.		Metals Scan		1	Н	Quantification	5	ا اء	Quantification ER NOTES	***	STM	E17	92 apı	proved	wipe	nedla only**	L		
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pn	0		130.	1 1	- 1				, ,	5 .S	Quantification	8 s	Ication, Quantificat OR OTHER NOTES	}		- 1	ŀ		}				
E.coll O1S7:H7, Collforms, S.aureus24 hr2 Day	3-5 Day	g of	7462, 50-Inc	OSHA		Fume,			l I.		£ !	E B	8 5	1		- [- [<u> </u>		
Salmonells, Listeris, E.coll, APC, Y & M 48 Hr3-5 Day		Long		8	윭	<u>E</u>		١.	IJ	子 誓	١٥١		,			-			}				
Mold	48 Hr3 Day5 Day		Level II, D-vac, II	7400B,	Respirable	yte(s) Welding		‡	П		8	اةام	是 S	1	ļ	- 1			}				
**Turnaround times establish a laboratory priority, aubject to laboratory volume and ar	s not guaranteed. Additional lees	1 g	- 71		22	Analyte(s)	£	羊	۱. ا	ပ္ဆိုန	÷ -	5 3	필돌	g		-	l		Ì				
apply for afternours, weekends and holidays.**		튙		્ર ક	重 .	- Anal	≥	흥 [호	7	₹ 2	gi	∌	- Z	Į	- 1	2	2						
Special Instructions:		Short report,	- AHE	7400A	. Total	ا يَ يُ	ORGANICS - METH	E.coli 0157:H7:	Listeria:	Aerobic Plate	Cofforms:	Y&M: +	Mold: +/	Sample Volume	8	8	Containers		.		EM N	mber (La	boratory
· ·		[• [ğ		1 2	₹ 🕺 [ž (2 2	퍨	§ 8	3	(S	Molt:	[Ē	₹	Matrix	5	Date Collect	1	Time Collected	[-	Use Only)	
Client sample ID number (Sample ID's must be unique) ta ta din a ta ta di di di	[₹	Yem;	P.C.	DUST	METALS RCRA 8,	8		MIC	ROBI	OLOC	Ϋ́	8	Š	2 [S	#	mm/ad		h/Vmm a/p	<u>.</u> 1, 11		
1 3W 1020112 SW			K							I				96	6	A		201	117		8	597	
23W-020112 NW			1											96		Ш							27
3 3W-025112 ME		Ш	\perp				\bot		Ш					96	5	Ц							25
103W-020112 SE			<u>U</u>								Ш	\perp	F :	96	6	J			1		<	۲ 	29
5																							
6			4.											L				·			1		
7									Ш	_													
8														\prod_{i}		1				:		· .	
9														L.			\perp						
10		1													••					·	1	<u> </u>	. <u>.</u>
	nal samples shall ba listed on :					_																	
NOTE: RE! will analyze incoming samples based upon information received and will not be re analysis as indicated on it is Chain of Oustody shall constitute en analysical services agreeme	espoosible for errors or omissions in ca ant with payment terms of NET 30 days	lculati s, failus	ons rest re to con	ilting fro nply wit	om the th peyr	Inaccui ment ter	ns ma	vodajn sy resu	et dat Titre	a. By s	igning Monti	diant	company r	present ge.	ative :	gree	s that s	pubmlas	ilon of t	he following sa	mples for r	equested	
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Laboratory Use Only	e/Tirne: > · 2 · (2	۵									<i>a</i>				Tem				_		es / No	(Yes y I	
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Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

Α	=	Amosite	F =	Fiber
An	=	Anthophyllite	B =	Bundle
C	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
T	=	Tremolite		

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

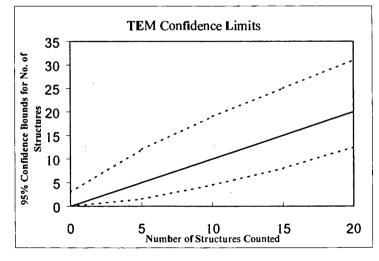
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

	
Laboratory name:	REI
Instrument	JEOL 100 CX/N S
Voitaae (KV)	100 KV
Magnification	20KX) 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

I LIM ASSESSES OF	401410 004111
Client :	RHR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	966
Date received by lab	2/2/12
Lab Job Number:	228693
Lab Sample Number:	859226
F-Factor Calculation (indirect Pre	eps Only):

Fraction of primary filter used

Total Resuspension Volume (ml)

Volume Applied to secondary filter

	γ
Analyzed by	JB
Analysis date	2/3/2
Method (D=Direct, I=Indirect,	1.5
(A=Indirect, ashed)	
Counting rules	14
(ISO, AHERA, ASTM)	777
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of St	ructures	Dime	nsions	Identification	Mineral Class				1 = y	es, blank	= no
Cild	One Opening	Туре	Primary	Total	Length	Width	, identification	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H3-1	ND												
	63-1	ND			Pn	ر م	88	ho in ho	1	57	abbis			
	F3-1	ND			P	100 C	B 60	Lan but		50	7 de brs			
	E3-1	ND				! 	,				0 -			
B	L3-3	M						112		12/0				
	K3-3	ND					•	11	2/	7/			•	
	H3-3	MD						//						
	13-4	M												
		, ,					,							

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX/N S
Voltage (KV)	100 KV
Magnification	/20KX) 10KX
Grid opening area (mm2)	0.011
Scale: 1L=	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
OA Type	

Client :	RHL
Sample Type (A=Air, D=Dust):	A
Air voluma (L) or dust area (cm2)	965
Date received by lab	2/2/12
Lab Job Number:	228693
Lab Sample Number:	859227

Analyzed by	JB
Analysis date	2/3/2
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting miles (ISO, AHERA, ASTM)	AY
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Fraction of primary litter used					
Total Resuspension Voluma (mil)			,		
Volunie Applied to secondary ritter (ml)	1	,	• •	•	

Grid	Grid Opening	Structure	No. of St	ructures	Dime	nsions	Identification	Mineral Class	:	1.4		1 = y	es, blank	: = no
Gild	Grid Opening	Туре	Primary	Total	Length	Width	Identification	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	13-3	ND		·		·								
	63-3	2												
	H3-3	ND			In	w }	taB	~ 90%	nte	n F	Spolet	pris		
	(13-3	ND				1	:			6				
	F3-3	ND							1	5	2/3/12			
B	H3-4	NP						-	7/		//			·
	6134	ON										-		
	F3-4	DN												

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX/N S
Voltage (KV)	100 KV
Magnification	20KX) 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 10 =	0.05S um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client:	Rul
Oliciit.	11/1/2
Sample Type (A=Air, D=Dust):	<i> </i>
Air volume (L) or dust area (cm2)	965
Date received by lab	2/2/12
Lab Job Number:	228693
Lab Sample Number:	879228

Analyzed by	73
Analysis date	2/3/2
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	Ď
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primary fliter used	.]
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of St	ructures	Dime	nsions	Identification	Mineral Class			,	1 = y	es, blank	= no
	Cita Operining	Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H3-1	ND				·								· .
	63	ND				<i>ν</i> Ω <i>1</i>	4 80	Lo. alm		5%	Jehns			
	F3-1	W			D	7 4	B 50	Loinbut		50/0	delmi-			
	E3-1	DN					,		, ,					
B	H3-1	N						115 2	13/12					
	(23-)	M						///	7					
	F3-1	ND									·			
	£3-1	MD								. 44				
						۰								

Reservoirs Environmentat, 1nc. TEM Asbestos Structure Count

Laboratory nama:	REI
Instrument	JEOL 100 CX/N S
Voltage (KV)	100 KV
Magnification	20KX) 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (rnm2)	企業官工業會
QA Type	

Client :	Rock
Sample Type (A=Air, D=Dust):	1
Air volume (L) or dust area (cm2)	966
Date received by lab	2/2/12
Lab Job Number,	228693
Lab Sample Number:	859229

Analyzed by	B
Analysis date	2/3/2
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	Ď
Counting rules (ISO, AHERA, ASTM)	AH
Grkl storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):								
Fraction of primary filter used		:						
Total Resuspension Volume (ml)								
Volume Applied to secondary filter (ml)								

G	rid (Grid Opening	Grid Opening	Grid Openina	Structure	No. of St	ructures	Dimer	nsions	Identification	Mineral Class				1 = y	es, blank	= no
			Type	Primary	Total	Length	Width		Amphibole	c	NAM	Sketch/Comments	Sketch	Photo	EDS		
P		44-4	ND			٠,	· .			. :		,					
	1	944	ND					,					· .				
		Fory	ND			K	0	Age	\ ~80	2%.	she	+ 5/0 W	esno	>			
		E4-4	ND				١										
	3	H3-3	ND					·	1/4	2	3/12						
		63-3	MD			:				/	/						
		F3-3	ND.					·					··				
		F3-3	S														

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\# Asbestos Structures}{\# GO Counted} \times \frac{1}{Volume (L)} \times \frac{Eff. Filter Area (mm²)}{Average GO area (mm²)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos stmctures Area Analyzed (mm²)

GO = TEM grid opening



February 6, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 229067-1 None Given

Project Description:

3rd West Sub-RMP

R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. Is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 229067-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE 1. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 229067-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description: Date Samples Received:

3rd West Sub-RMP

February 4, 2012

Analysis Type:

TEM, AHERA

Turnaround:

6 Hour

Date Samples Analyzed:

February 4, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter
ID Number	ID No	umber	Analyzed	Volume Sampled	Asbestos Structures Detected	Sensitivity	Concentration	Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W4)20212 SW	EM	859717	0.0900	938	ND	0.0046	BAS	BAS
3W-020212 NW	EM	859718	0.1000	849	ND	0.0045	BAS	BAS
3W-020212 NE	EM	859719	0.0900	929	ND	0.0046	BAS	BAS
3W-020212 SE	EM	8597 2 0	0.0900	927	ND	0.0046	BAS	BAS

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number:

RES 229067-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description:

3rd West Sub-RMP

Date Samples Received:

February 4, 2012

Analysis Type:

TEM, AHERA

Turnaround:

6 Hour

Date Samples Analyzed:

February 4, 2012

Client ID Number	Lab ID No	umber	Asbestos Mineral					Structures >5 Microns	**Excluded Structures	Asbestos Structures	
				Asbestos Structure Types*				in Length		for	
			•	Fibers	Bundles	Clusters	Matrices			Concentration	
3W-020212 SW	EM	859717		0	0	0	0	0 .	0	0	
3W-020212 NW	EM	859718		.0	0	0	. 0	0	0	0	
3W-020212 NE	EM	859719		0	0	0	0	0	0	0	
3W_020212 SE	FM	859720		n	O	0	0	0	0	0	

^{*}See Analytical Procedure for definitions

^{**}C = Excluded from total due to lack of confirmation

^{**}L = Excluded from total for length less than 0.5 micron (AHERA only)

^{**}A = Excluded from total due to i ncorrect aspect ratio

ND = None Detected

Reservoirs Environmental, Inc.

5601 Ubaan St. Danvar, 0 Pager : 303-50			303 90	64-18	186 • Fax	c 303-	477-4	275	Toll F	-ree ;	809 RI	SHENV							Page	of	
INVOICE TO: (IF			NT)				_					(CONT	ACT	INF	ORN	IATIO	ON:			
Company: R. F. Eurivanmental Company.					Con	tact /	Dav	121	برم	راج	21					ontact					
Addross: UTW 90005 #2 Addross:					Pho	no:				_					P	hono:					
Sandy Ut. 84070		···			Fox						•	·			F	ax:					
											735				c	el/pag	on				
Project Number and/or P.Q. 1/:									Email												
Project Description/Location: 30 West Sub - YZM2						<u>da</u>	<u>ve</u>	<u></u>	m	W	o.	com									
ASBESTOS_LABORATORY HOURS: Weekdays: 7am - 7pm	1			R	EQUI	ESTI	ED A	NA	LYS	is			Т	٧	ALI	D MA	ATRI:	x co	DES	LAB	NOTES:
PLM / PCM / FEM RUSH (Same Day) X PRIORITY (Next Day) STANDARD				T			T	Т	\sqcap	T		T		Ai	r = A			Вι	ılk = B		
(Rush PCM = 2hr, TEM = 6hr.)]				1									Du	st = [>		Pa	int = P		
CHEMISTRY LABORATORY HOURS: Weekdays: Sam - Spm]		1 1				İ	İ		ł	•	1 1		Sc	il = S	<u> </u>		Wi	pe = W		
Metal(s) / Dust RUSH 24 hr 3-5 Day		돈					-			-		1 1	L	Swa	b = S	W		F=	= Food		_
RCRA 8 / Motals & Welding RUSH 5 day 10 day roquirod for RUSH	1 = 1	Qvant	1 1		ล				Ouantification	-		5	Drin	king '	Nate	r = D	w w	aste V	Vater = WW		
tumarounds.**	8	Preps			တ္တ		İ		[울]	-	ΙÌ	[<u>3</u>]	<u> </u>				= Oth				
Organics24 hr3 day5 Day	Point Count	SO.		-	Metals Scan				ğ	£	5	on, Quantification		ASTM	E179	2 app	provod	wipo r	nedia only**		
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - Spm					2		- [გ .5	3	Quantification					1		- [
E.coll 0 157:H7, Coliforms, S.aureus 24 hr2 Day3-5 Day	report	7402. ISO-Indi	OSHA		Ě					1	2 3	cation,									
Salmonella, Listeria, E.coli, APC, Y & M 48 Hr 3-5 Day	Long			Respirable	Š		ي ا		Ouantifica	or Quantification	8 8	10510		- 1				ŀ			
Mold RUSH 24 Hr 48 Hr 5 Day 5 Day		Level	8	ğ	/e(s)	┰╽	. F				a c	Identific		ļ				İ			:
Tumaround times establish a laboratory priority, subject to isboratory volume and are not guaranteed. Additional foos apply for afterhous, weekends and helidays.	Short report,		7400A, 7400B,	ž	- Analyte(s) fCLP, Welding Fume,	Ę.	Salmonella: +/- E.cos 0157:H7:	1	Hale C	5 \$	۶ خ	, Identi	흩	ŀ	- 1						
	- ŧ	AHERA, uant, Mic	象	· Tolal,	- Analy TCLP,	8-1	Salmonella: E.co!i 0157:	7	E 3	Coliforns:	: F	÷ 8	Volume	_ [용	5		- 1			
Special Instructions:	5	4 2		-	8.	呈	Ē 8	Listeria:	Aerobic	١١	S.aureus:	Mold.	1 6	l se	ुं ।	喜	Dat	e	Time		ber (Laboratory
	뛼	TEM .	₽.	DUST	METALS RCRA 8,	ORGANICS - METH	<u>യ</u> ച					Moid: +/	Sample	(L) / Area	Matrix Code		Collec		Collectod) ·	e Only)
Client sample ID number (Sample ID's must be unique)	<u> </u>		ă	ō	ΣŒ	õ		MIC	RO8	IOLC	CY	<u> </u>	_	_		_	mm/do	,	t@/min t/p		N ()
1 3W-020212 SW	-	<u> </u>	+			\dashv	-	+	4	-		-	93		{ -	12	202	(2		259	717
2 3w-02012 NW	Ш						_	1		<u> </u>		₩.	84	_	Ш	\perp	_		<u> </u>		18
3 3W-020212 NE		L						L		Ш	Ц.		92	9	Ш	·					19
4 3w-020212 SE		1											92	.7			1				20
5							Т	П		П	Π.	TT	T	T	T	Т					
6			1.												\top						
7	\Box		$\dagger \dagger$	\dashv					\top		_	-	\top	寸	_	1		T			
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NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or emissions in	aloutad	lons res	ulting fr	om th										tstive	grees	that s	ubmiss	ilon of t	the folicwing sar	nples for requ	ested
analysis as indicated on mis Chair, of Custody shall constitute an inalytical sendoes agreement with payment terms of NET 30 day	/s, fallu	re to co	mply wi	th pay	ment te	rms m	ay res	ult in	a 1 5%	6 mor	inty int	erest surch	arge.								
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Results: Contact Oave Phone Email Fax Date 2/4 Time 4:300 Init	ials.	// Co	onlact				Phon	e E	maij	Fax			Date					Time	•	Initials	
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7931 2951 9569

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

Α	=	Amosite	$\mathbf{F} =$	Fiber
An	=	Anthophyllite	$\mathbf{B} =$	Bundle
C	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
Т	=	Tremolite		

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

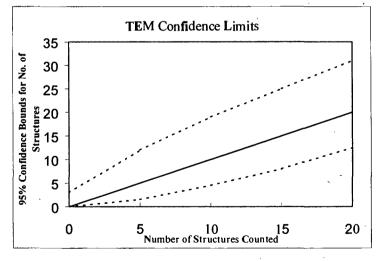
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Astrestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	RTR
Samole Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	938
Date received by lab	2/4/12
Lab Job Number:	229067
Lab Sample Number:	859717

Analyzed by	-fil-
Analysis date	2/4/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AL
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of St	nuctures	Dimer	nsions	Identification	Mineral Class				1 = y	es, blank	= no
	Grid Opening	Туре	Primary	Total	Length	Width	TOETHINGSTON	Amohiboie	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	114-6	M												
	946	M			Pn	en A	- 34,1n	tact ~5	de	ons				
	MG	M			Pr	er B	~H-	Auct 15	2/4	/12_	·			
	EME	M							,					
	Cure	NO												
B	¥3-1	ND												
	H3-1	M												
	43-1	ND									,			
	F3-1	M												

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instriment	JEOL 100 CX N S
Voltage (XV)	100 KV
Magrification	20100 10100
Grid mening area (mm2)	0.01
Scale 1L=	0.28 um
Scale 1D =	0.056 um
Primity filter area (mm2)	385
Secordary Filter Area (mm2)	
QA Type	

Client:	RTR
Sample Type (A=Alr, D=Dust):	A
Air yolume (L) or dust area (cm2)	849
Date received by lab	2/4/12
Lab Job Number:	229067
Lab Sample Number:	859718

Analyzed by	- Jil-
Analysis date	2/4/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO. AHERA, ASTM)	ALZ
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):								
Fraction of primary filter used								
Total Resuspension Volume (ml)								
Volume Applied to secondary filter (ml)	·							

Oid	Grid Opening	Structure			Dimensions		Identification	Mineral Class			1 = yes, blank = no			
	One Opening	Туре	Primaty	Total	Lettgth	Width	ide i alice de la la la la la la la la la la la la la	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	43-3	M									•			
	F3-3	MD				Pres	A 900	- wact -	57 L	spir	·			
	23-3	100				Pres	BA	furfle	2/	1/12				
	(3-3	M											·	
	B3-3	1/02		-										
B	F3-4	NO					,							
	.63-4	M												-
	c3-4	m												
	92-1	M)					,							
	F2-1	W												

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N 6
Voltage (KV)	100 KV
Magnification	ZOKX 10KX
Srid opening area (mm2)	0.01
Scale: 1L=	0.28 um
Scale: 1D=	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client:	RTR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	929
Date received by lab	2/4/12
Lab Job Number	229067
Lab Sample Number	859719

Analyzed by	-fil
Analysis date	2/4/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AIJ
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only): Fraction of primary filter used Total Resuspension Volume (ml)					
Fraction of primary filter used					
Total Resuspension Volume (ml)	-				
Volume Applied to secondary filter (ml)	· ·				

Grid	Grid Opening	Structure	No. of St	ructures	Dimensions Identification Mineral Class		iss			1 = ves, blank = no				
	Gild Spelling	Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	F4-6	W									•			
j	C4-6	ND			lre	n A	sil, who	cs ~57 2	رطم	J.				
	046	M			Prer	B	nA.	in In	14/.					
	B4-6	N					-6		, ,					
	144 to	M											·	
9	F6-4	M												
	26-4	M												
	Cie-y	M												
	BUY	M												

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	. REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	- 0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary FilterArea (mm2)	
QA Type	

Client:	RTR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	527
Date received by lab	2/4/12
Lab Job Number:	229067
Lab Sample Number:	859720

Analyzed by	Jil
Analysis date	2/4/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AL
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	,

Grid	Grid Opening	Structure	No. of St	No. of Structures Dimensions		Identification	Mineral Class	Mineral Class			1 = y	es, blank	= no	
		Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H3-1	NO									•			. —
	63-1	M				mer	A So	Locuterc4	5/1	lebr				
	F3.1	M				Pres	BN	() where a			Lenther	2/4/	(2_	
	£3-1	M												
	1-3-1	M												
3	15-1	M			;									,
	jr5-1	M					ı							
	45-1	M)												
	075-1	ND												

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, s/cc = $\frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{\text{IL}}{1000\text{cc}}$

Filter loading, s/mm² = #Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



February 7, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 229078-1 None **G**iven

Project Description:

3rd West Sub - RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 229078-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 229078-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description: Date Samples Received:

3rd West Sub - RMP

Analysis Type:

February 6, 2012 TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

February 7, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter
ID Number	ID No	umber	Analyzed	Volume Sampled	Asbestos Structures Detected	Sensitivity	Concentration	Loading
			(mm²)	(L)		· (s/cc)	(s/cc)	(s/mm²)
3W-020312 SW	EM	859768	0.0900	887	ND	0.0048	BAS	BAS
3W-020312 NW	EM	859769	0.0900	867	ND	0.0049	BAS	BAS
3W-020312 NE	EM	859770	0.0900	887	ND	0.0048	BAS	BAS
3W-020312 SE	EM	859771	0.0900	889	ND	0.0048	BAS	BAS

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

DATA QA

Due Date: 2/1/2
Due Time: 6:00c

REILAE Reservoirs Environmental, Inc. 5801 Logan 8t. Denver, CO 80216 · Ph: 303 964-1988 · Fax 303-477-4278 · ToR Froe :886 RESH-BNV

Tos Fros :586 RESI-9NV Page 1 of ____

	Pages: 803-801 INVOICE TO: (IF			-NT		•								c	ONT	ΔΩΤ	· IN F	ORM	ATION	j.				
Company: Rick Environmental	Company:					000	tect	Da	w	Ro	×I/	710	,	<u>`</u>	•			Contact:		<u>:-</u>				
Address: 47 W 98005 #2	Address:					Pho	ne;				3/H	···	y				_	Phone:		_				
Sindy U. 8400						Fai	:											BX:						
							/page			54			-					Cell/page	эг.	_				
Project Number and/or P.O. It:						Fif		is Delf				•		-								-		
Project Description/Location: 3120 West Sub - RAAP								davi	2 <i>@</i>	N	em	inc	10	***										
ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm						REQU	EST	ΓED	AN/	ALY:	SIS	94 Ş.		grija ja			/ALI	D MA	TRIX C	OD	ES	LA	B NOTE:	s:
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(Rush PCM = 2hr, TEM ● 6hr.)		1	1		}	11	١.	11			-	11				Du	ust =	0		Pair	nt = P			
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Metal(s) / Dust RUSH 24 hr 3-5 Day	**Prior notification la		营	1	{	 .	1	1		-	1	11	ĺ	1	L		ab = 1				Food			
RCRA 8 / Metals & Welding RUSH 5 day 10 day	required for RUSH	Ĕ	Quant,	.	1	Scan	}	1		턇	- 1	11	Logical	.,	Dri	nking	Wal	$\overline{}$		e W	aler = WW			
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Number of samples received: (Addit	ional samples shall the listed or	atta	ched l	long f	onn.	.)				·		-11		-1'			ننت							
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7931 83477900

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

Α	=	Amosite	F =	Fiber
An	=	Anthophyllite	B =	Bundle
C	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
Т	=	Tremolite		

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

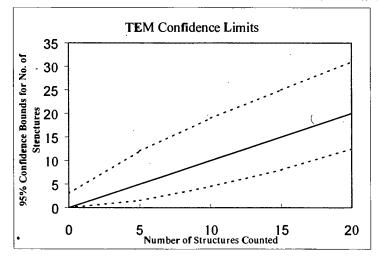
Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Page	1	of	
, age		Q1	

Reservoirs Environmenta	ıl, Inc.
TEM Asbestos Structure	Count

Laboratory name:	REI
Instrument	JEOL 100 CX (V) S
Voltage (KV)	100 KV
Magnification	(20KX)10KX
Grid opening area (mm2)	0.011
Scale: 1L=	0,28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	

Client:	RA
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	887
Date received by lab	2/6/12
Lab Job Number:	221078
Lab Sample Number:	8597108

Analysis date	2/7/12
Method (D=Direct, I=Indirect,	At Alexander A fatha
IA=Indirect, ashed)	
Counting rules	in the same of the same of
(ISO, AHERA, ASTM)	1 44
Grid storage location	Mdhth Analyzed
Scope Alignment	Date Analyzed

Analyzed by

F-Factor Calculation (Indirect Pr	reps Only):
Fraction of primary filter usad	
Total Resuspension Volume (ml)	
Volume Applied to Secondary filter (ml)	

Grid	Grid Opening	Structure	No. of St	ructures	Dimer	nsions	Identification	Mineral Class		11.		1 = y	es, blank	= no
		Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	K5-1	ND												
	H5-1	ND		·	ins	A	90%	n hu [50	s de	bus			
	45-1	ND		:	Pus	B	70%	· (m f	5		Ehri			
	F5-1	ND			r			16						
 	E5-1	ND		ļ		_		16 2/3	7/12					
B	421-4	ND									, .			
	64-4	ND					/							
	F4-4	ND												
	E4-4	MD										. ,		
					4.									

Reservoirs Envtronmental, Inc. TEM Asbestos Structure Count

	· · · · · · · · · · · · · · · · · · ·
Laboratory name:	REI
Instrument	JEOL 100 CX (S) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	多利基金指挥
QА Туре	

Client:	Rak
	Δ
Sample Type (A=Air, D=Dust):	
Air volume (L) or dust area (cm2)	867
Date received by lab	26/12
Lab Job Numben	221078
Lab Sample Number	859769

F-Factor Calculation (Indirect Pre	eps Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volums Applied to secondary filter (ml)	

Analyzed by	<u> </u>
Analysis data	2/2/10
Analysis date Method (D=Direct, I=Indirect,	-1716
IA=Indirect, ashed)	
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of St	mctures	Dimei	nsions	Identification	Mineral Class		•		1 = y	es, blank	= по
		Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
H	H3-4	ND								·				
	63-4	ND.			3		A 6	O Loin ha	£	5%	dehns			
	F3-4	NO			Pa	1/	B 57	2º/wheet	_	50/0	Jebris			
	E34	ND									,			
	C3-4	ND					1							
B	43-3	ND:					1B 2	17/12						
	K3-3	MD				/	// /							
	113-3	ND				/								
	K4-3	ND												

Reservoirs	Enviro	nmental	, Inc.
TEM Asbes	tos Stru	icture C	ount

·	
Laboratory name:	REI
Instrument	JEOL 100 CX (V) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.011
Scale: 1L=	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	365
Secondary Filter Area (mm2)	
QA Type	

TEM Vanesios Structure Confit				
Client:	Rak			
Sample Type (A=Air, D=Dust):	A			
Air volume (L) or dust area (cm2)	887			
Date received by lab	2/6/12			
Lab Job Number:	221078			
Lab Sample Numben	8597 70			

Fraction of primary filter used	
Total Resuspension Volume (ml)	_
Volume Applied to secondary filter	-

	·
Analyzed by	J16
Analysis date	2/7/12
Method (D=Direct, I=Indirect,	
IA=Indirect, ashed)	
Counting rules	All
(ISO, AHERA, ASTM)	H
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of St	ructures	Dimer	sions	Identification	Mineral Class				1 = y	es, blank	= no
0.11		Туре	Primary	Total	Length	Width		Amphibole	c	NAM	Sketch/Comments	Sketch	Photo	EDS
A	K5-1	ND												
	125-1	M			Pro	s.A	90	boin but		5%	debus			
	H5-1	ND			Prix	o R	80	Winh t		5%	debus			
	F5-1	ND			V								:	
	E5-1	ND						18	2/7	12				
3	H4-6	ND							/ /.					
	64-6	MD					·	/	·					
	F4-6	MD										· · ·		
	E4-6	ND												

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (1) S
Voltage (KV)	100 KV
Magnification	2010X 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client:	Rak
Sample Type (A=Air, D=Dust):	A
Air yolume (L) or dust area (cm2)	889
Date received by lab	2/6/12
Lab Job Number	221078
Lab Sample Number:	859771

Fraction of primary filter used	
Total Resuspension Volume (ml).	
Volume Applied to secondary fitter (ml)	

Analyzed by	J16
Analysis data	2/7/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	13
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of St	ructures	Dime	Dimensions		Mineral Class				1 = y	es, blank	= no
OC	Gile Opolining	Туре	Primary	Total	Length	Width	Identification	Amphibole	C	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H5-6	M												
	65-6	N				2	A 90	hoinfunf	3-5	5%	debrs			
	F5-6	Z D			6		3 80	of in last	3-5	-%	delas			·
	E5-6	ND												
	C5-6	ND						1k	14/4	//2				
B	H4-1	M				٠.		7	77					
	G14-1	W						/ '						
	F4-1	NO				- :								
	E4-1	MO												
		NA3	17/2											

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, $mm^2 = \# GO \text{ counted } x \text{ Average } GO \text{ Area } (mm)$

Concentration, $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{A verage GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



February 8, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 229209-1 None **G**iven

Project Description:

3rd West Sup - RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 229209-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described In this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 229209-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description:

3rd West Sup - RMP

Date Samples Received:

February 7, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

February 8, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter
ID Number	ID Number		Analyzed Volum Sample		Asbestos Structures Detected	Sensitivity	Concentration	Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-020412 W	EM	860822	0.0900	857	ND	0.0050	BAS	BAS
3W-020412 N	EM	860823	0.0900	855	1	0.0050	0.0050	11.1
3W-020412 E	EM	860824	0.0900	855	ND	0.0050	BAS	BAS
3W-020412 S	EM	860825	0.0900	853	ND	0.0050	BAS	BAS

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

DATA QA

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number:

RES 229 209-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description:

3rd West Sup - RMP February 7, 2012

Date Samples Received:

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

February 8, 2012

Client ID Number	Lab ID Number		Asbestos Mineral	Asl	bestos Stri	ucture Typ	oes*	Structures >5 Microns in Length	**Excluded Structures	Asbestos Structures for	
			•	Fibers	Bundles	Clusters	Matrices	5		Concentration	
3W-020412 W	EM	860822	ND	0	0	0	. (0 0	0	0	
3W-020412 N	EM	860823	Chrysotile	1	0	0		0	0	1	
3W-020412 E	EM	860824	NO	0	0	0		0 0	0	0	
3W-020412 S	EM	860825	ND	0	0	0		0 0	0	0	

^{*}See Analytical Procedure for definitions

^{**}C = Excluded from total due to lack of confirmation

^{**}L = Excluded from total for length less than 0.5 micron (AHERA only)

^{**}A = Excluded from total due to i ncorrect aspect ratio

ND = None Detected

Due Date: 2.7.12
Due Time: 11

RESERVOITS ENVIRONMENTAL INC... 6881 Logen SL Omiver, CO 60216 · Ph: 303 964-1986 · Fex 303-477-4276 · Toll Fres: 666 RESIENV

Pager: 303-509-2098 INVOICE TO: (IF DIFFERENT) **CONTACT INFORMATION:** Company: KIR Environmental Company (Leskeller 47 W 90005 #Z Phona: Sandy Ut. 84000 Call/pager 801541-1035 Praject Number and/or P.O. #: Project Description/Locallon: 7 West Sub - KMP dave@ rreniporom ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm REQUESTED ANALYSIS VALID MATRIX CODES LAB NOTES: PLM / PCM / FeM RUSH (Same Day) PRIORITY (Next Day) STANDARD Air = A Bulk = B (Rusti PCM = 2hr, TEM = 6hr.) Dust = D Paint = P CHEMISTRY LABORATORY HOURS: Weekdays: 8ani - Sprin Soil = S Wipe = W Metal(s) / Dust RUSH ___ 24 trr. ___ 3-5 Day Swab = SW F = Food "Prior notification is RCRA S / Metals & Welding Drinking Water = DW | Waste Water = WW __ RUSH ___ 5 day ___ 10 day required for RUSH Point Coun Fume Scan / TCLP O = Other turnarounds.** Organics 24 tir. ___ 3 day ___ 5 Day "ASTM E1792 approved wipe media only" MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm 1, 7402, 13 ISO-Indire E.coll O187:H7, Coliforns, Saureus 24 hr. 2 Day 4B Hr. Salmonella, Listeria, E.coll, APC, Y & M .. 3-5 Day _24 Hr <u>__</u>4**8** Hr ___3 Day Mold RUSH "Turharound times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional feed apply for alternours, weekends and holidays." Matrix Code Special Instructions: EM Number (Laboratory Date Use Only) Collected Collected Client sample ID number (Sainple ID's Thust be unique) MICROBIOLOGY 02/04/12 840822 23 3W 020412 24 2< 6 8 Number of samples received: (Additional samples shall be listed on attached long form.)

NOTE: REI wil analyza incoming aamplea based upon information received and will not be reaponable for errors or omisaione m calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submissian of the following samples for requested analysis as indicated on this Chain of Custody shadedistitute an analytical sanices agreement with payment terms of NET 30 days, feiture to comply with payment lenns may result in a 1.5% monthly interest surcharge.

Relinquis	shed By: (Let	tispassi	Fed Ex	Date/Time: 8건(06/12	Sample Condition:	On Ice	Sealed Intact
Received By	y: Use Only	un lui	Dale/Time:	2.7:17 1 Carrier.	Teal Ex-	Temp. (F*)	_ Yes/No	Yes / No Yes / No
Results:	Contact Dune	Phone Email Fax	Date 2 8 11 Time 9 3	Os Initigia/ Contact	Phone Email ax	Date	Time	Inilials
L	Contact	Phone Email Fax	Date Time	Initials Contact	Phone Ettlell Fax	Date	Time	Initials

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

Α	=	Amosite ~	F =	Fiber
An	_	Anthophyllite		Bundle
C	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
Т	=	Tremolite		

ND . = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

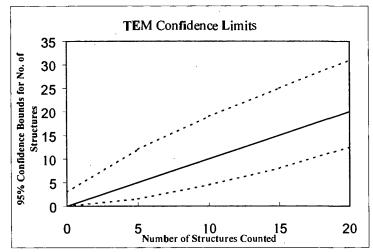
Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron

18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner A Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX 🚯 S
Voltage (KV)	100 KV
Magnification	(20K)X 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.058 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	Raf
Sample Type (A=Alr, D=Dust):	A
Air volume (L) or dust area (cm2)	857
Date received by lab	2/7/2
Lab Job Number:	229209
Lab Sample Number.	860827

Grid storage location	Month Analyzed
Counting rules (ISO, AHERA, ASTM)	A
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	\mathcal{D}
Analysis date	28/2
Analyzed by	JB

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of St	ructures	Dimer	nsions	Identification	dentification Mineral Class			1 = yes,			= no
Ond	Grid Opening	Туре	Primary	Total	Length	Width	·	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	63-3	N												
	F3-3	ND			Rux	A	80%	en hart	-	3%	debris			
	E3-3	M			Puso	B	90 %	whent	1-	3%	debis			
	E3-4	ND.			7					,				
	C3-4	ND						13	2/8/	2.				
B	672-6	ND							//					
	F2-6	M			<u> </u>			:				,		
	E2-4	M			<u> </u>			·						
	02-6	M						,						

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX 🐧 S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.058 urn
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	Rock
Sample Type (A=Alr, D=Dust):	A
Air volume (L) or dust area (cm2)	855
Date received by lab	2 7 2
Lab Job Number:	229209
Lab Sample Nurtiber:	860823

Fraction of primary filter used	
Total Resuspension Voluma (ml)	
Volume Applied to secondary filter (mf)	

Analyzed by	JB
Analysis date	2/8/12
Method (D=Direct, I≈Indirect, IA=Indirect, ashed)	D D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

G	rid	Grld Opening	Structure	No. of St	ructures	Dimer	nsions.	Identification	Mineral Class				1 = y	es, blank	= no
			Туре	Primsry	Total	Length	Wldth		Amphibole	c	NAM	Sketch/Comments	Sketch	Photo	EDS
<i>f</i>	7	64-1	M				R	nsA	90% in	mf	[-	3% Jehn	15		
		T-4-1	ND				R	B	%.nh	nt		% debu	۶		
		E4-1	ND												· <u>.</u>
		E4-6	F			2		(D)		1		\			
		C4-6	MD												
1	3	43-6	NO												
		43-6	NO						:				· 		
		F3-6	M							-					
		E3-6	MO												
	-		, , ,												

Reservoirs Environmental, inc. TEM Asbestos Structure Count

Laboratory nama:	RE1
Instrument	JEOL 100 CX 🐧 S
Vollage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	RH
Sample Type (A=Air, D=Dust):	A
Air voluma (L) or dust area (cm2)	855
Date received by lab	2/9/12
Lab Job Number.	229209
Lab Sample Number	860824

F-Factor Calculation (Indirect Prepare	s Only):
Fraction of primary filler used	
Total Resuspension Volume (ml)	: .
Volume Applied to secondary filter (ml)	

Analvzed by	JB
Analysis date	2/2/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	P
Counting rules (ISO, AHERA, ASTM)	At
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of St	ructures	Dimer	nsions	Identification	Mineral Class			•	1 = y	es, blank	= no
O.I.G	Cita Opening	Туре	Primsry	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	F4-6	ND							/					
	E4-4	W		· · · · · · · ·		k	ns A	70%	in h	ut.	1-3% a	alm	5	
	CH-6	ND		: 		B	5 B	80%	inl	mt	1-3 %	elso		
	B4-6	ND.								·				
	F5-6	w				· ·			15	2/8	1/2			
B	H5-4	ND							//	. / /				
	65-4	N					·	. /						
	F5-4	N												
	E5.4	ND												·
											:			

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 IÇV
Magnification	(20K)X 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.058 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	Rik
Sample Type (A=Alr, D=Dust):	A
Air voluma (L) or dust area (cm2)	853
Date received by lab	2/7/12
Lab Job Number:	229209
Lab Sample Number:	860825

F-Factor Calculation (Indirect Preps O	шу).
Fraction of primary filler used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	•

Analyzed by	JB
Analysis date	2/8/12
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	\mathcal{D}
Counting mles (ISO, AHERA, ASTM)	At
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	rid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class				1 = yes, blank = no		
				Primary	Total	Length	Width	Idominioación	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
)	K4-3	M												
Ŀ		H4-3	W			Bu	A	80	Charles	4	3%	Selsons		·	
		64-3	M			Ry	3 B	60	o pointen		3%	delon's			
		F4-3	W			(,	16						
		E4-3	ND						1	2/8/1	2				
	<u>B</u>	63-4	ND												
Ŀ		F3-4	M						/						
		E3-4	ND												
	<u></u>	63-4	ND		÷.				,						

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Caiculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm).

Concentration, $S/cc = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening